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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,793	12/02/2003	George E. Rotter	37,464-00	3338

7590 08/15/2005

BP America Inc.
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EXAMINER

DESAI, ANISH P

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,793

Applicant(s)

ROTTER ET AL.

Examiner

Anish Desai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/04/04, 06/28/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

5.00

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-14 and 22, drawn to an insulating and weather resistant material, classified in class 428, subclass 304.4.
 - II. Claims 15-21, drawn to a method of producing a weather resistant and insulating roof, classified in class 156, subclass 71.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product such as wall insulation.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the search required for Group I is not required for Group II, and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Scott McDonald on February 8, 2005 a provisional election was made without traverse to prosecute the invention of group I,

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claims 1-14 and 22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-21 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant has claimed that the "insulating material of claim 1 wherein the foamed polyester resin is fabricated from polyester, a blowing agent, concentrate (A) and, optionally concentrate (B), wherein concentrate (A) comprises polyester and about 0.2 wt % to about 15 wt % branching agent and wherein concentrate (B) comprises polyester and about 0.1 wt% to about 10 wt% of nucleating agent". It is not clear whether the claimed "polyester" is same or different. For the purpose of prior art search, the examiner is interpreting claimed "polyester" as the same.

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2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant has used the phrase "feed". It is unclear as to what is included in the feed. The examiner is interpreting that the feed contains polyester, a blowing agent, and concentrate.

3. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 22 recites " optional additional alternating layers of hot melt sealant and roofing felt...". It is unclear as to how many layers the applicant is claiming by reciting "additional alternating layers".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-13, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (US Patent 3,672,951) in view of Rotter et al. (US Patent 5,288,764).

5. Moore et al. disclose an improved built up roofing structure having a foamed plastic insulation (Column 1, lines 51-55). The method of preparation of built up roof includes applying to an upper face of a roof deck a hot melt adhesive, applying to the hot melt adhesive a cellular synthetic resinous foam structure (Column 2, lines 7-12)

and subsequently applying to the upper face of the foam structure 21 a barrier layer 22 which comprises plurality of layers of adhesive material such as bitumen, asphalt or pitch having interleaved therewith a plurality of layers 24 of roofing paper (Column 2, lines 44-49). Moore et al. also teach applying of a layer of coal tar pitch having a temperature of about 350° F (176° C) to the insulation board (Column 4, lines 21-25). The examiner is equating coal tar pitch of Moore et al. as claimed hot melt sealant.

6. Moore et al. are silent with respect to teaching foamed polyester resin comprising thermally resisting amount of branching agent.

7. Rotter et al. teach a process for obtaining foamed polyester articles containing low levels of branching agent (see Abstract) and use of the foamed polymer articles as building insulation (e.g. building insulation boards) (Column 1, lines 37-45).

8. Regarding claim 1, a skilled artisan would have found it obvious to use the foamed polyester article of Rotter et al. and used it in the invention of Moore et al. as a foam structure. One would be motivated to do this, in order to form a roof structure that has polyester foam as an insulator. Note that although, Moore et al. in view of Rotter et al. do not explicitly teach that the claimed limitation of "application of hot melt sealant is made substantially in the absence of degradation of the foamed polyester resin", it is reasonable to presume that the polyester foam of Rotter et al. would not degrade when the coal tar pitch (i.e. hot melt sealant) of Moore et al. is applied. Thus, the invention of Moore et al. in view of Rotter et al. meets the said claimed limitation. Support for said presumption is found in use of like materials for example the applicant is using the foam

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polyester foam with branching agent and Rotter et al. teach foamed polyester with branching agent. The burden is shifted to the applicant to prove it otherwise.

9. Regarding claim 2, in addition to previously disclosed matters of Rotter et al., the process of making foamed polyester of Rotter et al. comprises forming a molten resin mixture comprising (i) a major amount of a first resin composition comprising polyester and from 0 up to about 1 wt. % of a compound capable of branching the polyester, and (ii) a minor amount of a second polyester resin composition comprising at least about 50 wt. % polyester resin and greater than about 2 wt. % of a compound capable of branching the polyester, wherein the relative amounts of (i) and (ii) are such that said molten mixture comprises from about 0.1 wt. % to about 1 wt. % of said branching compound; (2) adding a blowing agent to the molten mixture; and (3) extruding the resultant mixture to obtain a foam (see Abstract).

10. Regarding claim 3, in addition to previously disclosed matters of Rotter et al., the polyester articles of the invention of Rotter et al. contain less than about 100 ppm of unreacted branching agent (column 7, lines 18-20).

11. Regarding claim 4, in addition to previously disclosed matters of Rotter et al., in Example 3 (Column 21, lines 10-14), Rotter et al. disclose concentrate A consists of 90 wt% PET (polyethylene terephthalate) and 10 wt% PMDA (pyromellitic anhydride) and concentrate B consists of 97% PET and 3 wt % sodium carbonate. Note that PMDA and sodium carbonate are branching agent and nucleating agent respectively.

12. Regarding claim 5, in addition to previously disclosed matters of Rotter et al., the amount of blowing agent used is from 0.1 to 30% by weight based on the amount of

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molten blend (Column 15, lines 11-13). Although Rotten et al. do not explicitly teach that the "polyester is deployed in the range of about 80 wt % to about 99.38 wt% of the product foam", "concentrate (A) is deployed in the range of about 0.2 wt% to about 10 wt% of the product foam", and "concentrate (B) is deployed in the range of about 0 to about 6.7 wt % of the product foam". Note that claimed amount (i.e. the weight percent) of polyester, concentrate (A), and concentrate (B) are considered as result effective variable. The examiner is taking the position that a skilled artisan can obviously optimize the amount of polyester, concentrate (A), and concentrate (B) in order to enhance the properties (e.g. strength to weight ratio) of the resultant polyester foam because discovering an optimum value of result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

13. Regarding claim 6, Rotter et al. teach sodium carbonate as nucleating agent (Column 9, lines 39-46, line 67).

14. Regarding claims 7 and 8, in addition to previously disclosed matters of Rotter et al., Rotter et al. teach pyromellitic dianhydride as the branching agent (see claim 4). Note that pyromellitic dianhydride is considered as aromatic anhydride having two anhydride functional groups.

15. Regarding claim 9, although Rotter et al. do not explicitly teach the claimed formula I and II, however the polyester of Rotter et al. necessarily has the claimed formula. The support is found in use of like materials. For example applicant has disclosed in the specification that the polyester of his/her invention comprises at least some polyethylene terephthalate (PET) repeating units and/or at least some

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polyethylene naphthalate (PEN) repeating units. Rotter et al. disclose that polyester used in their invention can be PET, PEN, or mixture of the two (Column 9, lines 5-16).

Thus the polyester of Rotter et al. has the claimed formula.

16. Regarding claim 11, Rotter et al. teach additives such as stabilizers, pigments, fillers, flame retardants, and nucleating agents (Column 10, lines 1-11).

17. Regarding claim 12, the inventions of Moore et al. and Rotter et al. are previously disclosed. Note that although Moore et al. are silent with respect to teaching the claimed additives in the coal tar pitch (i.e. hot melt sealant) of their invention. These additives need not to be present in the invention of Moore et al., because applicant has claimed that the claimed additives are optional in the hot melt sealant.

18. Regarding claim 22, the inventions of Moore et al. In addition to previously disclosed matters of the invention of Moore et al., the roof structure 10 comprises the insulating member (i.e. foam) 19 having lower face 20 and an upper face 21. A barrier layer 22 is adhered to the upper face 21 of the foam layer 19. The barrier layer 22 comprises plurality of layers of adhesive material 23 such as bitumen, asphalt or pitch having interleaved therewith a plurality of layers 24 of roofing paper to form a build-up water barrier. The barrier layer 22 has a lower face 25 adhered to the upper face 21 of the foam 19 and an exposed surface 26 comprising gravel and asphaltic or bituminous material adhering gravel in place (Column 2, lines 27-54). The examiner is equating foam 19 with adhesive material 22 as claimed layer (a), and roofing paper layer 24 as the claimed roofing felt (b), and exposed surface 26 with gravel as the claimed finish layer.

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19. As stated previously, Moore et al. are silent with respect to teaching the claimed insulating material as claimed in the claim 22. The invention of Rotter et al. is previously disclosed.

20. A skilled artisan would have found it obvious to use the foamed polyester article of Rotter et al. as the insulating foam structure in the invention of Moore et al. One would be motivated to do this, in order to form a roof structure that has polyester foam as an insulator.

21. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (US Patent 3,672,951) in view of White (US Patent 4,965,977).

22. The invention of Moore et al. is previously disclosed. Moore et al. are silent with respect to teaching special features as claimed in the claim 14.

23. White teaches a panelized roof system comprises a plurality of panels for positioning on a roof substrate. The panels comprise a foam insulation board with a rubber-modified bitumen saturated synthetic fiber mat bonded to the top surface thereof. A plurality of fasteners penetrates the sides of the each panel and secures the panels to the roof substrate (see abstract).

24. A skilled artisan would have found it obvious to use the fasteners of White and used it in the invention of Moore et al. One would be motivated to do this, in order to securely hold together various layers (e.g. foam layer and barrier layer) of the roof structure of Moore et al.

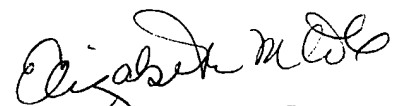
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

APD


ELIZABETH M. COLE
PRIMARY EXAMINER